AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A pump carrying supercritical CO_2 fluid or liquid CO_2,

~~wherein, a bearing supporting a main shaft has an inner ring, an outer ring and balls thereof formed of a ceramic member, respectively~~ comprising:

a canned motor which rotary drives an impeller mounted on one end of a main shaft of the canned motor working simultaneously with the main shaft; and

bearings which support the main shaft of the canned motor, wherein

the pump carries the supercritical CO_2 fluid or the liquid CO_2 by rotary driving of the impeller,

each of the bearings is a ball bearing of which an inner right, an outer ring and balls are made of ceramic material, and

the main shaft is hollow so that a deformation of the main shaft expands inward.

Claims 2 - 16 (Canceled)

17. (New) The pump according to claim 1, further comprising:

a manifold having a suction port through which the supercritical CO_2 fluid or the liquid CO_2 is suctioned and a discharge port through which the supercritical CO_2 fluid or the liquid CO_2 is discharged,

a discharge/suction-side casing which forms a space with the manifold, the space is a part of a passage connecting the suction port with the discharge port,

a purging-side casing having a purging port through which some of the supercritical $C0_2$ fluid or the liquid CO_2 is discharged, and

an outer cylinder being held between the discharge/suction-side casing and the purging-side casing and inside of which the canned motor is installed, wherein

one of the bearings is an angular ball bearing installed on the discharge/suction-side casing and another of the bearings is an angular ball bearing installed on the purging-side casing, and

the canned motor has a stator and a rotor installed on the main shaft, and both ends of the main shaft are rotatably supported by the angular ball bearings.

18. (New) The pump according to claim 17, wherein

a hollow portion of the main shaft is formed by providing a bored hole in the main shaft, and

a bolt for mounting the impeller on the main shaft is fastened into the bored hole.

19. (New) The pump according to claim 17, further comprising:

a preload spring which is installed between the purging-side casing and the bearing

installed to the purging-side casing and which provides a preload to the bearing.

20. (New) The pump according to claim 18, further comprising:

a preload spring which is installed between the purging-side easing and the bearing installed to the purging-side casing and which provides a preload to the bearing.

21. (New) The pump according to claim 1, wherein

the bearings are used while immersed in the liquid which is the supercritical CO_2 fluid or the liquid CO_2.

22. (New) The pump according to claim 17, wherein

the bearings are used while immersed in the liquid which is the supercritical CO_2 fluid or the liquid CO_2.

23. (New) The pump according to claim 18, wherein

the bearings are used while immersed in the liquid which is the supercritical CO_2 fluid or the liquid CO_2.

24. (New) The pump according to claim 19, wherein

the bearings are used while immersed in the liquid which is the supercritical CO_2 fluid or the liquid CO_2.

25. (New) The pump according to claim 20, wherein

the bearings are used while immersed in the liquid which is the supercritical CO_2 fluid or the liquid CO_2.

26. (New) The pump according to claim 1, wherein the main shaft is made of austenite stainless steel.

27. (New) The pump according to claim 17, wherein the main shaft is made of austenite stainless steel.

28. (New) The pump according to claim 18, wherein the main shaft is made of austenite stainless steel.

29. (New) The pump according to claim 19, wherein the main shaft is made of austenite stainless steel.

30. (New) The pump according to claim 20, wherein the main shaft is made of austenite stainless steel.

31. (New) The pump according to claim 1, wherein

the pump is used as a circulation pump for washing semi-conductors.

32. (New) The pump according to claim 17, wherein

the pump is used as a circulation pump for washing semi-conductors.

33. (New) The pump according to claim 18, wherein

the pump is used as a circulation pump for washing semi-conductors.

34. (New) The pump according to claim 19, wherein the pump is used as a circulation pump for washing semi-conductors.

35. (New) The pump according to claim 20, wherein the pump is used as a circulation pump for washing semi-conductors.